

## Family Forest Facts and Statistics

### The Issues

- Conversion
  - Between 1940 & 1970, approximately 257,000 acres of timberland were converted to urban use in Washington State.<sup>2</sup>
  - Nearly 10% of forestland statewide was converted to other uses between 1970 and 1992.<sup>1</sup>
    - From 23.1 million acres in 1970 to 20.9 acres in 1992.<sup>1</sup>
  - In 1970, 18.4 million acres of forestland were in commercial production. In 1997, 16.1 million acres were in commercial production.<sup>1</sup>
  - In Western WA 322,000 acres of NIPF land was converted to other uses between 1979 and 1989.<sup>1</sup>
    - 88 acres/day, 50 square miles/year
    - by way of comparison, the city of Seattle covers 83 square miles
  - In the I-5 corridor between Olympia and the Canadian border (Island, King, Kitsap, Pierce, San Juan, Skagit, Snohomish, Thurston and Whatcom counties) it is estimated that 159,000 acres of private timberlands were converted between 1979 and 1989
    - 15,000 acres annually
    - this rate exceeds that for all of Washington between 1940 and 1975.<sup>3</sup>
  - The PNW has experienced the most rapid declines in private-owned timberland area in the U.S. PNW private timberland has decreased by nearly 10% since 1980, roughly from 19 million acres to 17 million acres. Current projections suggest continued decline, including a projected loss of over ½ million acres (3%) by 2020.<sup>19</sup>
  - Forest fragmentation rates are increasing faster than population growth. Development-supporting economies keep expanding over the landscape, replacing forest-and-farm-supporting economies. Prior to 1992, each person added to America converted a little less than ¼ of an acre of forest to developed uses. That rate has more than doubled: each additional person causes development of about ½ an acre of forest now.<sup>20</sup>
  - A “bow wave effect” extends far in front of expanding development. It raises land prices, taxes, social and regulatory pressures that discriminate against rural land uses well before a development rush.<sup>20</sup>
  - Investing in development is highly rewarded by many government policies; investing in forests is not. Studies consistently show that residential developments get more public services than they pay for while farms and forests get less. On average, farm and forest owners get only \$0.34 worth of local public services for every dollar paid in taxes. Owners of residential properties get \$1.15 worth of services for every dollar they pay in taxes.<sup>20</sup>
  - Tree cover lost between 1972 and 2000 in the Willamette Valley resulted in an estimated increase of 963 million cubic feet of storm water flow during peak storm events. The cost to build storm water management systems to deal with the increased runoff costs an estimated \$2.4 billion. The remaining tree cover is valued at an estimated \$20.6 billion in storm water management alone.
    - This lost tree canopy would have removed toxins from the atmosphere (138 million pounds of sulfur dioxide, carbon monoxide, ozone and nitrogen dioxide) at a rate of \$322 million per year.
    - The vegetation lost during this span would have stored 58 million tons of carbon and sequestered 157,000 tons of carbon per year. The region’s trees currently store an estimated 73 million tons of carbon and sequester 563,000 tons annually.<sup>23</sup>

- Population Growth
  - Federal census figures for those I-5 counties show a population increase of 23.2 percent between 1980 and 1990. Population estimates predict that these nine counties will increase in population by 43.8 percent between 1990 and 2010, and 69.2 percent between 1990 and 2020.<sup>4</sup>
  - Population trends:
    - 1950: 2.4 million
    - 1999: 5.6 million
    - 2045: 11 million<sup>1</sup>
- Economics
  - NIPF timber harvests account for nearly 30% of timber harvested in the state.<sup>24</sup>
  - The ratio of income between urban and rural timber communities has increased from 1.4 to 2.4, a 66% increase in less than 20 years.<sup>7</sup>
  - Urban communities place the highest value on forest aesthetics and biodiversity associated with older forests, yet rural communities are being forced to absorb most of the costs and job losses associated with regulatory constraints on forest harvests.<sup>18</sup>
  - The U.S. imports 37% of the wood products used in the nation. Washington State imports 22% of the wood products used in the state.<sup>24</sup>
  - The United States imported \$5.7 billion worth of softwood lumber in 2001, about one-third of the U.S. market.<sup>24</sup>
  - Timber harvests “go terminal” in and near developed areas. One last cut is made in preparation for development; then the infrastructures and economic incentives helping keep land in forests disappear. Since this is not accompanied by a reduction in U.S. demand for forest products, imports rise, driving up harvests outside the area while local forests are unused.<sup>20</sup>
  - Markets for timber products are presently the sole monetary incentives for keeping land in private forests in most cases. Owners generally receive no payment for the other outputs coming from their forests and so have little incentive to consider them when there is an opportunity to cash in development values. Examples of valuable, but uncompensated, forest outputs are: carbon sequestration, storm water control, clean water protection, wildlife habitat, air quality improvement and a host of other benefits that go to the general public free. These have value as evidenced by the high costs of replacing them with taxpayer-financed engineered systems.<sup>20</sup>
- Aging demographic
  - Average age of a WA State small forest landowner is between 57 and 67 years old.<sup>15 & 16</sup>
  - Those who inherit valuable land are forced to subdivide it to pay high estate taxes. People who are 65 and older hold 48% of all private timberland acres, meaning that land keeps getting divided among heirs. Owners of high-value land who haven’t made complex legal tax-avoidance arrangements before dying leave their heirs with the problem of being forced into selling land and timber to pay high estate taxes.<sup>20</sup>
  - According to John Greene, a Forest Service researcher, the number and percent of estates owing federal estate tax has risen in recent years. At the same time, increased prices and urban expansion have driven up the value of both the timber and land components of forestland, pushing more land into higher brackets. Greene estimates that there are presently about 87,000 forest estate transfers annually. He projects that about 2.6 million acres of timber and 1.4 million acres of forestland is sold annually to pay estate taxes, and that at least 350,000 acres is developed annually as a result.<sup>20</sup>

- Wildlife habitat
  - Nationwide, 90% of listed endangered species depend on NIPF land for some habitat needs<sup>9</sup>
  - 27% of NIPF lands in Washington have fish-bearing streams, although this number predates the new stream typing rules which may increase the acreage<sup>11</sup>
  - Urbanization decreases the species diversity of the avian community and increases avian density (or bird biomass), favoring dominance by a few species. Bird species vary in sensitivity to urbanization, leading to loss of sensitive species and a shift in the species composition of urban versus forest bird communities. Habitat specialists, including many forest insectivores, neotropical migrants, and forest interior species, have been documented to be less tolerant of urbanization.<sup>22</sup>
  - Increasing urbanization fragments forest habitat into smaller and more isolated tracts. Research on breeding forest birds has shown that some species have minimum area requirements. Many studies documented declines in the numbers of forest breeding migratory birds in small isolated forest patches.<sup>22</sup>
  - Roads:
    - Small forest mammals, such as eastern chipmunks, gray squirrels, and white-footed mice,) were found reluctant to venture onto road surfaces when the distance between cleared road margins exceeded 65 feet. The presence of roads appeared to substantially hinder the movements of forest amphibians. Black bears in the Pisgah National Forest of North Carolina almost never crossed an interstate highway; roads with low traffic volume were crossed more frequently than those with high traffic volume. Bears also appeared to adjust their home ranges to areas with lower road densities.<sup>22</sup>
    - Roads and power line corridors provide habitat and mechanisms for the spread of some exotic plants and animals. All high- and low-use roads sampled in an experimental forest contained at least one exotic plant species, some had as many as 14 (Parendes and Jones 2000). Even abandoned spur roads with no traffic over the last 20 to 40 years still had numerous exotic plants.<sup>22</sup>
- Regulations/legislation
  - The new Forest & Fish Rules will cost NIPF landowners 19% of their sales due to leaving trees in riparian management zones.<sup>14</sup>
  - 12% of the total business value for small forestry businesses is in compliance costs related to riparian management zones versus 4.2% for large businesses.<sup>14</sup>
  - In addition to the compliance cost, lost employment resulting from lower timber harvests suggests that there are substantial wage losses and potentially large disproportionate impacts on small businesses. The losses amount to nearly \$176 million in Washington for the forestry and saw-milling sectors (assumed to mostly impact small businesses) and nearly \$130 million for the pulp and paper sectors (assumed to mostly impact large businesses).<sup>14</sup>
  - 33% of participants in a 1999 WFFA survey reported they harvested timber earlier than planned due to concerns with changing forest practices regulations.<sup>15</sup>

- Public perception
  - Social scientists have observed that in many places of the United States, urbanites are migrating to rural areas seeking to improve their quality of life. These ex-urbanites are bringing with them different attitudes, needs, and values than those of long-term residents. The process is manifested in changing attitudes regarding the use and management of forests, and a push for forestry policies and practices that reflect changing forest values. Increasing urbanization and forest fragmentation may be accompanied by declining empathy toward timber industries and increasing demands for outdoor recreation and the protection of forest amenities and wildlife.<sup>19</sup>
- Consumption
  - U.S. domestic softwood lumber consumption for 2000 was 53,678 million board feet. For that same year softwood lumber imports were 19,448 million board feet, which is 36.2%. Of the imports, 18,332 million board feet were from Canada, which is 34.2% of total consumption.<sup>21</sup>
  - The average American uses more than 700 pounds per year of paper, less than 1/3 is recycled paper. (40% of US garbage is paper and paper products).<sup>24</sup>

## The Resources

- Land ownership
  - Total land base for Washington State: 42.5 million acres
    - Unforested: 18.3 million acres
    - Federal forestland: 4.9 million acres
    - State forestland: 2.4 million acres
    - Native American: 1.3 million acres
    - Industrial forestland: 4.6 million
    - Non-industrial forestland: 3.1 million<sup>5</sup>
  - Nationwide, NIPF's own 59% of forestland<sup>8</sup>
  - Average size of a Washington State NIPF parcel: 84 acres<sup>12</sup>
- Forest Cover
  - An average tree absorbs the same amount of CO<sub>2</sub> emitted by an automobile in one year<sup>6</sup>
  - Runoff from forested acres is 17% less than from developed areas<sup>6</sup>
  - One mature tree absorbs approximately 13 pounds of carbon dioxide a year. For every ton of wood a forest grows, it removes 1.47 tons of carbon dioxide and replaces it with 1.07 tons of oxygen.<sup>13</sup>
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- Timber production
  - NIPF timber harvest in 1998: 1.2 billion board feet
    - This equals 29.3% of the volume of all timber harvested in Washington State<sup>10</sup>
- Use of wood products
  - The average American uses about 749 pounds of paper every year and 95% of the houses built are done so using wood. That means that the average person uses the equivalent of a 100 foot high, 16 inches in diameter tree each year for their wood and paper needs.<sup>13</sup>
  - It takes 16,000 bd ft to build an average 2000 sq ft home.<sup>24</sup>

## The People

- Definition
  - According to WA State Forest Practices laws, a small forest landowner is defined as a landowner who harvests less than 2 million board ft/year
    - 2 million board feet is enough to build approximately 200 homes
- WFFA Survey Results (of 400 WFFA members surveyed in 1999)<sup>15</sup>
  - 46% are retired
  - Average age: 67 years
  - 48% reside on property
  - Management objectives
    - Landowner satisfaction: 93%
    - Personal attachment: 92%
    - Legacy for children: 85%
    - Scenic beauty/aesthetics: 83%
    - Income from timber: 78%
    - Protect fish and wildlife: 72%
    - Commercial development: 15%
  - 33% harvested earlier than planned due to concerns with changing forest practices regulations
- WSU Survey Results (of 600 landowners statewide surveyed in 1999)<sup>16</sup>
  - Average # of years property was owned: 23 years
  - % who want to keep forestland in the family: 58%
  - % who want to buy more forestland: 11.3%
  - % who want to sell land in parcels: 4.6%
  - Average age: 57 years
- Economics
  - NIPF timber harvests account for nearly 30% of timber harvested in the state.<sup>10</sup>
  - The ratio of income between urban and rural timber communities has increased from 1.4 to 2.4, a 66% increase in less than 20 years.<sup>7</sup>
- Geography
  - In Western WA, NIPF lands tend to be located at low elevations on highly productive ground near major streams and rivers.<sup>17</sup>
  - NIPF lands are often in the interface between urbanizing population centers and middle and higher elevations where federal, state and industrial forestland is found. In many cases, these forests constitute the “buffer” between local communities and the large tracts of industrial forestlands.<sup>17</sup>

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